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#### MESSAGE:

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Arnon AMIR et al.

Serial No.: 10/044,720

For: *SYNTHESIZING INFORMATION-BEARING CONTENT FROM MULTIPLE CHANNELS*

Enclosed are the following:

Transmittal letter (1 page); and Amendment Appeal Brief ( 24 pages)

Docket No.: ARC920000131US1

110-A00-024

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Docket No. ARC920000131US1

In re application of: Arnon AMIR et al.

Serial No.: 10/044,720

Filed: January 11, 2002

For: *INFORMATION-BEARING CONTENT FROM MULTIPLE CHANNELS*

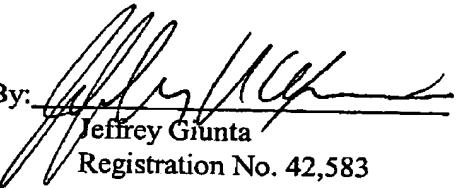
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Sir:

Transmitted herewith is Appellants' Amended Appeal Brief in support of its appeal to the Board of Patent Appeals and Interferences from the decision dated March 8, 2005, of the Examiner finally rejecting claims 1-36 of the above-referenced application.

[X] The Commissioner is hereby authorized to charge payment of any necessary fees associated with this communication, or credit any overpayment, to Deposit Account No. 09-0441.

Respectfully submitted,

By:   
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Date: December 16, 2005

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JEFFREY N. GIUNTA  
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Date

DEC 16 2005

**PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
Amir et al.  
Serial No.: 10/044,720  
Group Art Unit: 2161  
Filed: January 11, 2002  
Examiner: Cam Linh T. NGUYEN  
For: SYNTHESIZING INFORMATION-BEARING CONTENT FROM MULTIPLE CHANNELS

AMENDED APPEAL BRIEF

## **MS – APPEAL BRIEF - PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Siri

This Amended Appeal Brief is filed in response to a Final Office Action dated March 8, 2005, an Advisory Action dated May 23, 2005, a Notice of Appeal received June 10, 2005, and a Notification of Non-Compliant Appeal Brief dated November 16, 2005. Reconsideration of the Application, withdrawal of the rejections and allowance of the claims are respectfully requested.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date December 16, 2005 by: *DESGR*

Signature:

**Applicant, Assignee, or Representative**

**I. REAL PARTY IN INTEREST**

The real party in interest is International Business Machines (IBM) of Armonk, NY.

**II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences.

**III. STATUS OF CLAIMS**

Claims 1-36 are pending. Claims 1-10 and 12-35 are rejected, claims 11 and 35 have been indicated as being allowable if rewritten in independent form.

The Examiner's rejection of claims 1-10 and 12-35 is on appeal.

Attached hereto is an Appendix containing a copy of claims 1-36, which include the claims involved in this appeal.

**IV. STATUS OF AMENDMENTS**

No amendments were filed subsequent to the final rejection of March 8, 2005. The Appellants submitted a response with amendment under 37 C.F.R. §1.111 on December 2, 2004 in response to a non-final office action. The Examiner issued a final rejection of claims 1-10 and 12-35 in the Final Office Action of March 8, 2005 and the Appellants submitted a response without amendment to this Final Office action. The currently pending amendments are therefore as submitted and entered in the Appellants' amendment of December 2, 2004.

**V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

The pending independent claims under appeal in this case are corresponding method, system, apparatus and computer readable media claims that define subject matter that corresponds to the other independent claims. An advantageous application of the claimed subject matter that provides a clear, concise understanding of the method and system of the present claimed invention is described in the specification at page 6, lines 7-13. Independent method claim 1 is used herein to describe the subject matter defined

by the independent claims under appeal. Independent method claim 1 sets forth the following subject matter.

- A) Receiving a query. Queries are received in the exemplary embodiment described in the specification by a user interface 302, which provides the query to a query handler 308 illustrated in FIG. 3. This processing is described in the specification at page 11, lines 13-18.
- B) Separating a plurality of information sources into individual elements of content (EOC). Information sources are separated in step 504, which is illustrated in the processing flow of FIG. 5, by an input filter 306 illustrated in FIG. 3. This processing is described on page 9, lines 13-18 and page 11, lines 18-21.
- C) Tagging each EOC with metadata. Each EOC is tagged with metadata within step 506 of the processing flow illustrated in FIG. 5 to produce tagged EOC elements 402 illustrated in FIG. 4. This process is described in the specification at page 9, lines 18-19 and page 11, lines 21-22 and page 12, lines 1-12.
- D) Pattern matching each EOC. The pattern matching filter 312, illustrated in FIG. 3 of the exemplary embodiment of the present invention that is described in the specification, performs the pattern matching, which is also illustrated as step 508 within FIG. 5 and further described at page 9, lines 19-22 and page 12, lines 14-20.
- E) Calculating a distance function from every EOC to every other EOC. Distance calculator 310, illustrated in FIG. 3 of the specification, performs these distance calculations, which are illustrated as step 510 of FIG. 5 and further described at page 9, line 22 through page 10, line 3, page 10, line 9 through page 11, line 10, and page 13, lines 1-3.
- F) Providing the EOC to a set of virtual buffers, each EOC being provided to one of the set of virtual buffers that is pre-defined to contain EOC with less than a given distance

value between each other. The comparative analysis filter 318, illustrated in FIG. 3 of the specification, provides the EOCs to the proper buffer within the set of virtual buffers, which is illustrated as step 512 of the processing flow of FIG. 5. This processing is described in the specification at page 9, lines 20-22, page 10, line 9 through page 11, line 10, and page 13, lines 3-6.

In addition to the subject matter defined by the independent claims, the Appellants are separately arguing dependent claims that define the following subject matter.

Claims 9, 18, 25 and 34 define "creating virtual summary buffers." The virtual summary buffers are shown as reference number 406. The processing for this creating is described in the specification at page 13, line 16 through page 14, line 7, and shown as step 602 of FIG. 6.

Claims 10, 14, 21 and 35 define, *inter alia*, the following two elements. Using claim 10 as an example, the element of "applying a comparative analysis filter to remove redundant sub-elements" is described in the specification at page 1, lines 9-11, and further illustrated by the comparative analysis filter 318 of FIG. 3. Claim 10 further defines "synthesizing summary digests by extracting context-preserving EOC, the EOC having a distance function value less than a predetermined value." This processing is described at page 14, line 21 through page 15, line 18.

## VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-5, 7-10, 12-30 and 32-35 are unpatentable over *Ingle et al* (U. S. Patent Publication 2002/0138524) in view of *Chang et al.* (U.S. Patent Publication 2003/0050923) under 35 U.S.C. §103(a).

Whether claims 6 and 31 are unpatentable over *Ingle et al* (U. S. Patent Publication 2002/0138524) in view of *Chang et al.* (U.S. Patent Publication 2003/0050923) in further view of *Bull et al.* (U. S. Patent Publication 2003/0187726) under 35 U.S.C. §103(a).

## VII. ARGUMENT

A. WHETHER CLAIMS 1-5, 7-10, 12-30 AND 32-35 ARE UNPATENTABLE  
OVER *INGLE* ET AL. IN VIEW OF *CHANG* ET AL.

In the Examiner's Final Office Action of March 8, 2005, the Examiner rejected claims 1-5, 7-10, 12-30, and 32-35 under 35 U.S.C. § 103(a) as being unpatentable over *Ingle* et al. (U. S. Patent Publication 2002/0138524) (Hereinafter *Ingle*) in view of *Chang* et al. (U. S. Patent Publication 2003/0050923) (Hereinafter *Chang*). The Appellants submit that claims 1-5, 7-10, 12-30, and 32-35 are not unpatentable over *Ingle* in view of *Chang* under 35 U.S.C. § 103(a). The Appellants assert that the *Ingle* and *Chang* references, taken either alone or in combination with one another, do not teach or suggest the claimed limitations of: "providing the EOC [Element of Content] to a set of virtual buffers, each EOC being provided to one of the set of virtual buffers that is pre-defined to contain EOC with less than a given distance value between each other" and "calculating a distance function from every EOC to every other EOC." The cited prior art references also do not teach or suggest: "a set of virtual buffers" and "calculating a distance function from every EOC to every other EOC" as set forth for the presently claimed invention. Furthermore, the cited prior art references do not teach or suggest: "virtual summary buffers" or "applying a comparative analysis filter to remove redundant sub-elements" and "synthesizing summary digests by extracting context-preserving EOC, the EOC having a distance function value less than a predetermined value" as is set forth for the presently claimed invention.

1. Claims 1-5, 7-8, 12, 13, 15-17, 19, 20, 22-24, 26-30, and 32-33

The Applicants suggest selection of independent claim 1 as representative of this group of claims. With regards to Claim 1, the Appellants traverse the Examiner's assertion that the *Ingle* reference teaches the claim limitation of "providing the EOC [Element of Content] to a set of virtual buffers, each EOC being provided to one of the set of virtual buffers that is pre-defined to contain EOC with less than a given distance value between each other." Office Action dated March 8, 2005, page 3, first paragraph, citing *Ingle*, paragraphs 0056-0057. The Appellants further traverse the Examiner's

assertion that "the memory in the assembly engine 108" of the *Ingle* reference is an adequate teaching of a "virtual buffer" as is set forth by claim 1. *Id.* The Appellants assert that claim 1 recites "a set of virtual buffers" and that the subject method and computer readable medium limitations specify "providing the EOC to a set of virtual buffers, each EOC being provided to one of the set of virtual buffers that is pre-defined to contain EOC with less than a given distance value between each other."

The *Ingle* reference is directed towards a system and method of automatically generating a summary document with information mined from a data repository. *Ingle*, Abstract. The exemplary embodiment of *Ingle* is directed towards generating a clinical resume that include information for a medical discharge summary. *Ingle*, page 3, paragraphs 0056 and 0057. The system of *Ingle* retrieves data from one or more sources, tags the retrieved data and stores the tagged data in a database. *Ingle*, page 3, paragraph 52. The processing then mines the tagged data stored in databases. *Ingle*, page 3, paragraph 0053. Clinical resumes that are generated by the system and method of *Ingle* include information that pertains to a particular patient. *Ingle*, page 1, paragraph 0004.

The Appellants assert that *Ingle* teaches that the assembly process performed by the assembly engine 108 "results in a relatively large marked up document." *Ingle*, page 3, paragraph 57 (emphasis added). The *Ingle* reference only contemplates processing data to assemble a single document. The Appellants assert that the focus of the *Ingle* reference of assembling a single document, i.e., a single file or data structure for storing information, is not a teaching or suggestion of the recited limitation of the presently claimed invention, which specifies "a set of virtual buffers," especially when the invention is considered "as a whole." Claim 1 further describes the "set of virtual buffers" by specifying that "each EOC being provided to one of the set of virtual buffers that is pre-defined to contain EOC with less than a given distance value between each other." The elements of this particular claim language are described in the description of the set of virtual buffers in the Appellants' specification. For example, the specification states that "each virtual buffer contains a set of appropriately related EOC." Specification, page 9,

lines 21 and 22. "Each of the virtual buffers 404 is then made to contain an EOC and every EOC that is less than a certain 'distance' from it." Specification, page 10, lines 1-3 (emphasis added). Assuming, *arguendo*, that it may be possible for a "set" to contain a single element, the Appellants assert that in the context of claim 1, when considered as a whole, it is clear that the claimed virtual buffers of the presently claimed invention include multiple buffers that are independent and separate from one another, and that are substantively different from, the single file or data structure of the *Ingle* reference.

The Appellants assert that the "set of virtual buffers" as specified in the context of claim 1 is not taught or suggested by the structures described in the *Ingle* reference, which only contemplates assembling a single document that contains information related to the query. The Appellants further assert that the "set of virtual buffers" specified by claim 1 cannot simply be a collection of a plurality of the single document that is taught by *Ingle*. The EOC in claim 1 are each provided to the entire set of virtual buffers, and the processing places the EOC into a particular virtual buffer within the set of virtual buffers based upon a relationship of that EOC, which is determined by a given distance value, to the other EOC that are in each of the particular virtual buffers within the set of virtual buffers. The Appellants assert that this is substantially different than the teachings of *Ingle*, which assemble a single document that contains data that satisfies pre-specified criteria for that document, such as data that pertains to the particular patient being discharged. *Ingle*, page 1, paragraph 0004.

The Examiner further stated in the Advisory Action that the *Ingle* reference discloses "a 'buffer' that is used to store the 'information object' or 'EOC' in a table with specific data fields. Clearly, those files in the 'buffer' must be predefined to store the EOC." Advisory Action dated May 23, 2005, item 11 (citing *Ingle*, paragraph 0062). The Examiner asserts that this is a teaching of "one of the set of virtual buffers that is predefined to contain EOC with less than a given distance value between each other." *Id.* (emphasis added). The Appellants assert that the Examiner's characterization of the teachings of the *Ingle* reference does not address the last part of the cited limitation, i.e., "EOC with less than a given distance value between each other." Although the

buffer may be predefined to store the EOC, the *Ingles* reference does not teach or suggest that the information objects stored in the buffer have "less than a given distance value between each other" as is recited for claim 1.

In addition to the above described differences between the teachings of *Ingle* and the structure of the claimed "set of virtual buffers," the Appellants assert that the teachings of *Ingles* and *Chang*, taken either alone or any combination with one another or with the other cited prior art of record, do not teach or suggest "one of the set of virtual buffers that is pre-defined to contain EOC with less than a given distance value between each other" as is recited for claim 1. As discussed above, the *Ingle* reference is limited to forming a single document, and does not teach or suggest "a set of virtual buffers." The *Ingle* reference does not teach or suggest assembling multiple data objects based upon relationships between and among the individual data objects to be assembled, as opposed to the relationship between the data objects and criteria specified for the assembled data. The *Ingle* reference is limited to mining data objects from a database and assembling data objects into a summary document according to specified criteria for that summary. *Ingle*, page 3, paragraph 0052. The Appellants assert that mining data objects returns data objects that match pre-specified searching criteria, and does not include comparing data objects to each other in order to produce a set of virtual buffers, as is specified by claim 1.

The *Chang* reference is directed towards maximizing expected generalization for learning complex query concepts. *Chang*, title. The system of *Chang* learns a concept by presenting samples to a user and receiving feedback from the user regarding that sample's relationship to the user's query concept. Samples to be presented are intelligently selected to minimize the learning time and training effort by the user. *Chang*, page 2, paragraph 28.

The Appellants assert that the *Chang* reference is limited to identifying objects based upon the object's similarity to "a user's current query concept." *Chang*, page 2, paragraph 0028. The Appellants assert that neither *Chang*, *Ingles*, nor any combination

of the two cited references, teaches or suggests "a set of virtual buffers" where "each EOC being provided to one of the set of virtual buffers that is pre-defined to contain EOC with less than a given distance value between each other" as is set forth in claim 1. The Appellants assert that the distance value between each EOC in a virtual buffer, as is described in claim 1, is different than comparing data objects to a "current query concept" since ensuring that EOC have distance values relative to each other allows the attributes of EOC within a particular virtual buffer to vary with relation to a particular set of attributes. The allowed variation of attributes for EOC contained within a particular virtual buffer in the invention set forth by claim 1 is therefore substantially different than the "query concept" of the *Chang* reference.

Further, the Appellants traverse the Examiner's assertion that *Chang* teaches "calculating a distance function from every EOC to every other EOC." The teachings of *Chang* are limited to determining distances between "a user's current query concept" and samples in a database. *Chang*, page 2, paragraph 28. The Appellants assert that this differs from "calculating a distance function from every EOC to every other EOC" as is set forth in claim 1. The distance determination as set forth in claim 1 determines the distance between all combinations of EOC, and not the distance between each EOC and a query concept as is taught by *Chang*. The Appellants further assert that *Ingle*, taken either alone or in any combination with *Chang* and/or the other cited references, also does not teach or suggest "calculating a distance function from every EOC to every other EOC" as is set forth in claim 1.

The Appellants assert that the *Chang* reference, taken either alone or in any combination with the *Ingle* reference or other cited prior art references, fails to teach the above discussed limitations that are recited by claim 1. Therefore, the Appellants assert that claim 1 and the other claims in this group are patentable over the *Ingle* and *Chang* references, and that the rejection of the claims in this group should be reversed.

2. Claims 9, 18, 25 and 34

The Applicants suggest selection of claim 9 as representative of this group of claims. With regards to claim 9, the Appellants traverse the Examiner's assertion that the *Ingle* reference teaches "creating virtual summary buffers." The Examiner cites the last paragraph at the conclusion of the specification of the *Ingle* reference as a teaching of this limitation. Office Action dated March 8, 2005, page 4, fourth item, citing *Ingle*, page 6, paragraph 106. As discussed above with regards to the "set of virtual buffers," the *Ingle* reference is limited to creating a single document. This single document is created by assembling data into a format for a pre-defined discharge summary. *Ingle*, page 3, paragraph 46. The Appellants assert that the "discharge summary" referred to in paragraph 0046 of the *Ingle* reference corresponds to the "summary document" discussed in the cited portion of the *Ingle*. *Ingle*, page 6, paragraph 106.

The Appellants assert that the recitation of "virtual summary buffers" in claim 9 indicates that these virtual summary buffers are separate from the "virtual buffers" recited by claims from which this claim depends. The virtual summary buffers are described in the Appellants' specification as being created from the virtual buffers. Specification, page 13, lines 16-17. The Appellants assert that this differs from the "discharge summary" of *Ingle*, which is the only assembly of data objects. Additionally, the *Ingle* reference only teaches creating a single summary which the Appellants assert is not a teaching or suggestion of the structure recited by claim 9 when that claim is considered "as a whole, which recites the term "buffers" in the plural and clearly defines a structure that includes multiple virtual buffers for the reasons discussed above with regards to the "virtual buffers" of claim 1. The Appellants submit that the structure set forth in claim 9, which contemplates a plurality of virtual summary buffers, is a sufficiently significant difference over the single summary document of the *Ingle* reference to preclude the teachings of *Ingle* from teaching or suggesting "the set of virtual buffers" set forth for claim 1. The Appellants assert that "the set of virtual buffers" as claimed is not a simple extension of the single document taught by *Ingle* since these virtual buffers, and the associated virtual summary buffers, are all separate and independent possible

destinations for EOC when "providing the EOC to a set of virtual buffers." This differs from creating a single document (i.e., a single file for storing information) and assembling data into that single document, as is taught by *Ingle*.

The Appellants assert that the *Chang* reference, taken either alone or in any combination with the *Ingle* reference or other cited prior art references, fails to teach the creation of "virtual summary buffers" as is recited by claim 9. Therefore, the Appellants assert that claim 9 is patentable over the *Ingle* and *Chang* references, and that the rejection of the claims in this group should be reversed.

### 3. Claims 10, 14, 21 and 35

The Applicants suggest selection of claim 10 as representative of this Group of claims. With regards to claim 10, the Appellants traverse the Examiners assertion that the combination of *Ingle* and *Chang* teach "applying a comparative analysis filter to remove redundant sub-elements" and "synthesizing summary digests by extracting context-preserving EOC, the EOC having a distance function value less than a predetermined value." Office Action Dated March 8, 2005, page 4, fifth item (citing *Chang* paragraph 0132 and *Ingle* paragraph 0106).

The Examiner asserts that "concatenating the EOC in each virtual buffer" corresponds to the clustering of *Chang*. Office Action dated March 8, 2005, page 4, fifth item, citing *Chang*, paragraph 0132. The cited portion of *Chang* refers to a process for identifying image samples that are to be presented to a user for purposes of training an image recognition system to recognize image samples that are declared to "match" a given query sample. Judicious selection of these samples reduces the amount of work, and time, needed to train the image matching system. *Chang*, page 6, paragraphs 0123 through 0132. The Appellants assert that the "clustering" discussed by the *Chang* reference refers to identifying images that are similar and therefore facilitating the selection of sufficiently different images. For example, *Chang* states "the query-concept learner process often attempts to select samples from among different clusters of samples." *Chang*, page 6, paragraph 0132. The Appellants assert that the clustering

taught by *Chang* is a conceptual association of data objects and is not a teaching or suggestion of "concatenating the EOC in each virtual buffer" as is recited for claim 10, particularly when considered "as a whole."

The Examiner cites the "summary document" of *Ingle* as a teaching of "synthesizing summary digests." Office Action dated March 8, 2005, page 4, fifth item, citing *Ingle*, page 6, paragraph 0106. The Applicant asserts that the subject limitation recites "synthesizing summary digests by extracting context-preserving EOC, the EOC having a distance function value less than a predetermined value." The Appellants assert that the teachings of the *Ingle* reference are limited to creating summary documents based upon mined data and tags marking portions of the mined data. *Ingle*, page 2, paragraph 0044 to page 3, paragraph 0046. The Appellants assert that neither the *Ingle* or *Chang* reference, taken either alone or in any combination with one another or other cited prior art, teach or suggest "extracting context-preserving EOC" as is recited by claim 10.

The Appellants assert that the *Chang* reference, taken either alone or in any combination with the *Ingle* reference or other cited prior art references, fails to teach the above discussed limitations that are recited by claim 10. Therefore, the Appellants assert that claim 10 is patentable over the *Ingle* and *Chang* references, and that the rejection of the claims in this group should be reversed.

#### B. WHETHER CLAIMS 6 AND 31 ARE UNPATENTABLE OVER INGLE ET AL IN VIEW OF CHANG ET AL. IN FURTHER VIEW OF BULL ET AL.

In the Examiner's Office Action of August 18, 2004, the Examiner rejected claims 6 and 31 under 35 U.S.C. § 103(a) as being unpatentable over *Ingle* et al. (U. S. Patent Publication 2002/0138524) (Hereinafter *Ingle*) in view of *Chang* et al. (U. S. Patent Publication 2003/0050923) (Hereinafter *Chang*) in further view of *Bull* et al (U. S. Patent Publication 2003/0187726) (Hereinafter *Bull*). The Appellants submit that claims 6 and 31 are not unpatentable over *Ingle* in view of *Chang* in further view of *Bull* under 35

U.S.C. § 103(a). The Appellants assert that the *Ingle*, *Chang* and *Bull* references, taken either alone or in any combination with one another, does not teach or suggest the claimed limitations of: "wherein the query is received via an agent pushing relevant information to a user based on a user profile" as is set forth for the presently claimed invention.

### 1. Claims 6 and 31

The Applicants suggest selection of independent claim 6 as representative of this Group of claims. With respect to the *Bull* reference, the Examiner stated that the combination of *Ingle/Chang* fails to disclose: "wherein the query is received via an agent pushing relevant information to a user based on a user profile." Office Action dated March 8, 2005, page 5, penultimate paragraph. The *Bull* reference was cited in combination with the *Ingle* and *Chang* references to add *Bull*'s teaching of "an information aggregation and synthesization system comprising an agent and a user profile." Office Action dated March 8, 2005, page 5, last paragraph, citing *Bull*, FIG. 2, paragraphs 0033 and 0036. The Appellants point out that the "agent" recited by claim 6 is explicitly defined in those claims as "for pushing relevant information to a user." The teachings of the *Bull* reference are limited to maintaining user profiles. These profiles are used, for example, to present a customized sales presentation, *Bull*, paragraph 0008, or to narrow information retrieval for the user, *Bull*, paragraph 0029. The Appellants assert that the *Bull* reference, taken either alone or in any combination with the *Ingle*, *Chang* or other cited prior art references, does not teach or suggest "an agent for pushing relevant information to a user" as is recited by claim 6. The technology of "pushing relevant information" is a known technology in the art whereby information is transmitted to a user without the user explicitly requesting that particular information transmission. See, *Webopedia*, "Push: (1) In client/server applications, to send data to a client without the client requesting it." See <http://www.webopedia.com/TERM/p/push.html>. The Appellants assert that the cited prior art of reference does not teach or suggest using "an agent for pushing relevant information" in the context of the claimed invention, when claim 6 is considered "as a whole."

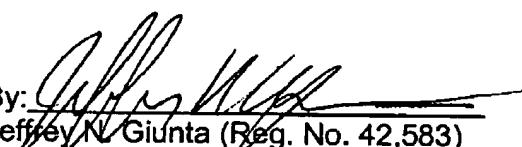
The Appellants assert that the *Chang* and *Bull* references, taken either alone or in any combination with the *Ingle* reference or other cited prior art references, fails to teach the above discussed limitations that are recited by claim 6. Therefore, the Appellants assert that claim 6 is patentable over the *Ingle* and *Chang* references, and that the rejection of this group of claims should be reversed.

#### IX. CONCLUSION

For the reasons stated above, Appellants contend that each claim is patentable. Therefore, reversal of all rejections is courteously solicited.

Respectfully submitted,

Dated: December 16, 2005

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### VIII. CLAIMS APPENDIX

1. A method comprising the steps of:  
receiving a query;  
separating a plurality of information sources into individual elements of content (EOC);  
tagging each EOC with metadata;  
pattern matching each EOC;  
calculating a distance function from every EOC to every other EOC; and  
providing the EOC to a set of virtual buffers, each EOC being provided to one of the set of virtual buffers that is pre-defined to contain EOC with less than a given distance value between each other.
2. The method of claim 1, wherein the plurality of information sources comprises a plurality of content channels.
3. The method of claim 1, wherein the plurality of information sources comprises a plurality of related stories delivered on a single channel at different times.
4. The method of claim 1, wherein the query is received via a user interface.
5. The method of claim 1, wherein the query is received via an Internet browser.
6. The method of claim 1, wherein the query is received via an agent for pushing relevant information to a user based on a user profile.

7. The method of claim 1, wherein the plurality of information sources comprises at least one of:

Internet-based, intra-net based, and other online forms of news and information resources;  
video broadcasts;  
radio broadcasts;  
press release forums; and  
financial forums.

8. The method of claim 1, wherein the EOC comprise at least one of:

text;  
video;  
audio; and  
digital media.

9. The method of claim 1, further comprising the step of creating virtual summary buffers.

10. The method of claim 1, further comprising the steps of:

concatenating the EOC in each virtual buffer;  
applying a comparative analysis filter to remove redundant sub-elements;  
synthesizing summary digests by extracting context-preserving EOC, the EOC having a distance function value less than a predetermined value; and  
presenting the results as summary digests.

11. The method of claim 10, wherein the summary digests comprises color-coded sub-elements of content based on the number of EOC containing that particular sub-element.

12. A system comprising:

a digest synthesizing application, wherein the digest synthesizing application, in response to receiving a query, separates a plurality of information sources into individual elements of content (EOC), tags each EOC with metadata, pattern matches each EOC, and calculates the distance function from every EOC to every other EOC;

a result set manager, communicatively coupled to the digest synthesizing application, for providing EOC to a result set; and

a result set, communicatively coupled to the result set manager, comprising a set of virtual buffers, each EOC being provided to one of the set of virtual buffers that is pre-defined to contain EOC with less than a given distance value between each other.

13. The system of claim 12, wherein the digest synthesizing application comprises:

a query handler, for receiving a query ;

an input filter, communicatively coupled to the query handler, for separating a plurality of information sources into individual elements of content (EOC);

a distance calculator, communicatively coupled to the input filter, for calculating the distance function from every EOC to every other EOC; and

a pattern-matching filter, communicatively coupled to the distance calculator, for pattern matching each EOC.

14. The system of claim 13, wherein the digest synthesizing application further comprises:

a comparative analysis filter, communicatively coupled to the pattern-matching filter, for removing redundant sub-elements.

15. The system of claim 12, further comprising:
  - a user interface; and
  - a user interface/event manager, communicatively coupled to the user interface and the digest synthesizing application, for receiving a user query from the user interface and presenting the result set to the user interface.
16. The system of claim 12, further comprising an application programming interface, communicatively coupled to the digest synthesizing application, for communicating with other applications.
17. The system of claim 12, wherein the result set comprises:
  - a set of tagged EOC;
  - a set of virtual buffers, communicatively coupled to the set of tagged EOC; and
  - a set of summary digests, communicatively coupled to the set of virtual buffers.
18. The system of claim 17, wherein the result set further comprises a set of virtual summary buffers.
19. An apparatus comprising:
  - a digest synthesizing application, wherein the digest synthesizing application, in response to receiving a query, separates a plurality of information sources into individual elements of content (EOC), tags each EOC with metadata, pattern matches each EOC, and calculates the distance function from every EOC to every other EOC;
  - a result set manager, communicatively coupled to the digest synthesizing application, for outputting EOC to a result set; and
  - a result set, communicatively coupled to the result set manager, comprising a set of virtual buffers for storing EOC less than a given distance value.
20. The apparatus of claim 19, wherein the digest synthesizing application comprises:
  - a query handler, for receiving a query ;

an input filter, communicatively coupled to the query handler, for separating a plurality of information sources into individual elements of content (EOC);  
a distance calculator, communicatively coupled to the input filter, for calculating the distance function from every EOC to every other EOC; and  
a pattern-matching filter, communicatively coupled to the distance calculator, for pattern matching each EOC.

21. The apparatus of claim 20, wherein the digest synthesizing application further comprises:

a comparative analysis filter, communicatively coupled to the pattern-matching filter, for removing redundant sub-elements.

22. The apparatus of claim 19, further comprising:

a user interface; and

a user interface/event manager, communicatively coupled to the user interface and the digest synthesizing application, for receiving a user query from the user interface and presenting the result set to the user interface.

23. The apparatus of claim 19, further comprising an application programming interface, communicatively coupled to the digest synthesizing application, for communicating with other applications.

24. The apparatus of claim 19, wherein the result set comprises:
  - a set of tagged EOC;
  - a set of virtual buffers, communicatively coupled to the set of tagged EOC; and
  - a set of summary digests, communicatively coupled to the set of virtual buffers.
25. The apparatus of claim 24, wherein the result set further comprises a set of virtual summary buffers.
26. A computer readable medium including computer instructions for driving a digest synthesizing application, the computer instructions comprising instructions for:
  - receiving a query;
  - separating a plurality of information sources into individual elements of content (EOC);
  - tagging each EOC with metadata;
  - pattern matching each EOC;
  - calculating a distance function from every EOC to every other EOC; and
  - providing EOC to a set of virtual buffers, each EOC being provided to one of the set of virtual buffers that is pre-defined to contain EOC with less than a given distance value between each other.
27. The computer readable medium of claim 26, wherein the plurality of information sources comprises a plurality of content channels.
28. The computer readable medium of claim 26, wherein the plurality of information sources comprises a plurality of related stories delivered on a single channel at different times.
29. The computer readable medium of claim 26, wherein the query is received via a user interface.

30. The computer readable medium of claim 26, wherein the query is received via an Internet browser.
31. The computer readable medium of claim 26, wherein the query is received via an agent for pushing relevant information to a user based on a user profile.
32. The computer readable medium of claim 26, wherein the plurality of information sources comprises at least one of:
  - Internet-based, intra-net based, and other online forms of news and information resources;
  - video broadcasts;
  - radio broadcasts;
  - press release forums; and
  - financial forums.
33. The computer readable medium of claim 26, wherein the EOC comprise at least one of:
  - text;
  - video;
  - audio; and
  - digital media.
34. The computer readable medium of claim 26, further comprising computer instructions for a step of creating virtual summary buffers.

35. The computer readable medium of claim 26, further comprising computer instructions for the steps of:

concatenating the EOC in each virtual buffer;  
applying a comparative analysis filter to remove redundant sub-elements;  
synthesizing summary digests by extracting context-preserving EOC, the EOC having a distance function value less than a predetermined value; and  
presenting the results as summary digests.

36. The computer readable medium of claim 35, wherein the summary digests comprises color-coded sub-elements of content based on the number of EOC containing that particular sub-element.

## IX. EVIDENCE APPENDIX

None

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## X. RELATED PROCEEDINGS APPENDIX

None

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